

ABSTRACT OF THE DISCLOSURE

An electronic control unit (an ECU) detects an operating condition of an engine and quantity of particulate matters accumulated in a diesel particulate filter (a DPF) having an oxidation catalyst from a pressure difference across the DPF. The ECU operates temperature increasing means for regenerating the DPF based on the above detection results. During a low speed and light load operation, the ECU does not perform temperature increasing operation similar to an operation performed during a middle load operation. Instead, the ECU performs operation such as reduction of recirculated exhaust gas quantity in order to inhibit an increase in the quantity of the accumulated particulate matters. When the operating condition is changed afterward, the temperature increasing means is operated, so safe regeneration of the DPF is achieved.